FOR OHIO EPA USE
FACILITY ID:_____

EU ID: _____ PTI #:

EMISSIONS ACTIVITY CATEGORY FORM
GENERAL PROCESS OPERATION

This form is to be completed for each process operation when there is no specific emissions activity category (EAC) form applicable. If there is more than one end product for this process, copy and complete this form for each additional product (see instructions). Several State/Federal regulations which may apply to process operations are listed in the instructions. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)

   ☐ New Permit ☒ Renewal or Modification of Air Permit Number(s) (e.g. P001): P026

2. Maximum Operating Schedule: 24 hours per day ; 365 days per year

   If the schedule is less than 24 hours/day or 365 days/year, what limits the schedule to less than maximum? See instructions for examples. _____

3. End product of this process: metal impregnated catalysts support material

4. Hourly production rates (indicate appropriate units). Please see the instructions for clarification of "Maximum" and "Average" for new versus existing operations:

Hourly	Rate	Units (e.g., widgets)
Average production	2,000	lb/batch
Maximum production	2,600	lb/batch

5. Annual production rates (indicate appropriate units) Please see the instructions for clarification of "Maximum" and "Actual" for new versus existing operations:

Annual	Rate	Units (e.g., widgets)
Actual production	4,380	ton/yr
Maximum production	5,694	ton/yr

6. Type of operation (please check one):

☐ Continuous
☒ Batch (please complete items below)

Minimum cycle* time (minutes): 2,880 minutes
Minimum time between cycles (minutes): 0 minutes
Maximum number of cycles per daily 24 hour period: 0.5 batches per 24 hours
(Note: include cycle time and set up/clean up time.)

*"Cycle" refers to the time the equipment is in operation.

7. Materials used in process at maximum hourly production rate (add rows/pages as needed):

Material	Physical State at Standard Conditions	Principle Use	Amount**
Inorganic powders (alumina, silica, or copper carbonate)	solid	extrudate support	2,000 lb/batch
metal nitrate solutions	liquid	impregnating solution	1,000 lb/batch

** Please indicate the amount **and** rate (e.g., lbs/hr, gallons/hr, lbs/cycle, etc.).

8. Please provide a narrative description of the process below (e.g., coating of metal parts using high VOC content coatings for the manufacture of widgets; emissions controlled by thermal oxidizer...):

The double cone blender B-1 (a.k.a, Pfaudler West) is used to impregnate a support material (extrudate) with metal-containing solutions. This permit modification is to account for a specific product that has the potential to generate NOx emissions. This product uses a carbon-based material on which metal nitrates are impregnated. The carbon-based material cannot withstand the operating temperature of the calciners, which is the typical down-stream process for all other products that are impregnated in the blender. Therefore, the material must be dried within the blender where the drying temperature can be maintained at the desired temperature by controlling the steam fed to the jacket of the blender.

This specific produced in blender B-1 by impregnating the carbon extrudate with metal nitrate solutions and perrhenic acid. The metal nitrate solutions are prepared in a solution tank by dissolving metal nitrate crystals in nitric acid and deionized water. The carbon extrudate is loaded into the double cone blender through a feed hopper that utilizes dust control via a fabric filter. The metal solution is transferred from the solution tank in three steps. Once all of the material is added, the raw materials are mixed and subsequently dried. The headspace gas within the blender is transferred to the Trimer scrubber for NOx control during the drying process. The processing time for a single batch (1,300 lb) of this product is 48 hours.